1) 
$$t$$
-BuO<sup>-+</sup>K
2) BrCH<sub>2</sub>CO<sub>2</sub>Et Boc-HN
7
8

HN
S
(9)
Boc-HN
O
2
NH-AraC
TFA/DCM
10

CO<sub>2</sub>Et NaOH
Boc-HN
O
2
A/Pyridine
TFA.H<sub>2</sub>N
O
3
NH-AraC
12

Fig. 3

BochN 
$$( )$$
  $( )$ 

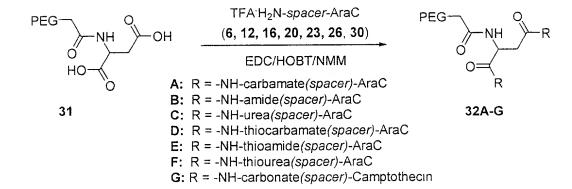
Fig. 4

Fig. 5

13 
$$\xrightarrow{17}$$
 BochN  $\xrightarrow{O}_2$  N  $\xrightarrow{C}_S$  BochN  $\xrightarrow{O}_2$  NH-AraC  $\xrightarrow{P}$  NH-AraC  $\xrightarrow{TFA/DCM}$  TFA.H<sub>2</sub>N  $\xrightarrow{O}_2$  N NH-AraC

Fig. 7

Fig. 8



PEG 
$$\rightarrow$$
 NH  $\rightarrow$  R'  $\rightarrow$  R'  $\rightarrow$  R'  $\rightarrow$  R'  $\rightarrow$  R'  $\rightarrow$  NH  $\rightarrow$  R'  $\rightarrow$  NH  $\rightarrow$  R'  $\rightarrow$  NH  $\rightarrow$ 

Fig. 9

A: R = -NH-carbamate(spacer)-AraC

B: R = -NH-amide(spacer)-AraC

C: R = -NH-urea(spacer)-AraC

D: R = -NH-thiocarbamate(spacer)-AraC

[R = NH-spacer-Drug]

37A-G

E: R = -NH-thioamide(spacer)-AraC

F: R = -NH-thiourea(spacer)-AraC

G: R = -NH-carbonate(spacer)-Camptothecin

A: R = -NH-carbamate(spacer)-AraC

B: R = -NH-amide(spacer)-AraC

C: R = -NH-urea(spacer)-AraC

D: R = -NH-thiocarbamate(spacer)-AraC

E: R = -NH-thioamide(spacer)-AraC

F: R = -NH-thiourea(spacer)-AraC

G: R = -NH-carbonate(spacer)-Camptothecin

[R = HN-spacer-Drug]

46

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[R = HN-spacer-Drug]

A: R = -NH-carbamate(spacer)-AraC

B: R = -NH-amide(spacer)-AraC

C: R = -NH-urea(spacer)-AraC

D: R = -NH-thiocarbamate(spacer)-AraC

E: R = -NH-thioamide(spacer)-AraC

F: R = -NH-thiourea(spacer)-AraC

G: R = -NH-carbonate(spacer)-Camptothecin

DOMESEM CErrit

47

46

[R = NH-carbonate (spacer)-Camptothecin]

[R = HN-carbonate(spacer)-Camptothecin]

Coupling

R = alkyl, etc. for ester

Figure 14

H<sub>2</sub>N

CO2R

- (1) Pegylation with PEG acid or T-PEG
- (2) Hydrolysis of the ester (or saponification)

GEP-CH<sub>2</sub>-
$$\overset{\circ}{C}$$
- $\overset{\circ}{N}$ - $\overset{\circ}{C}$ - $\overset{\circ}{N}$ - $\overset{\circ}$ 

Coupling with spacer-Drug

Figure 15

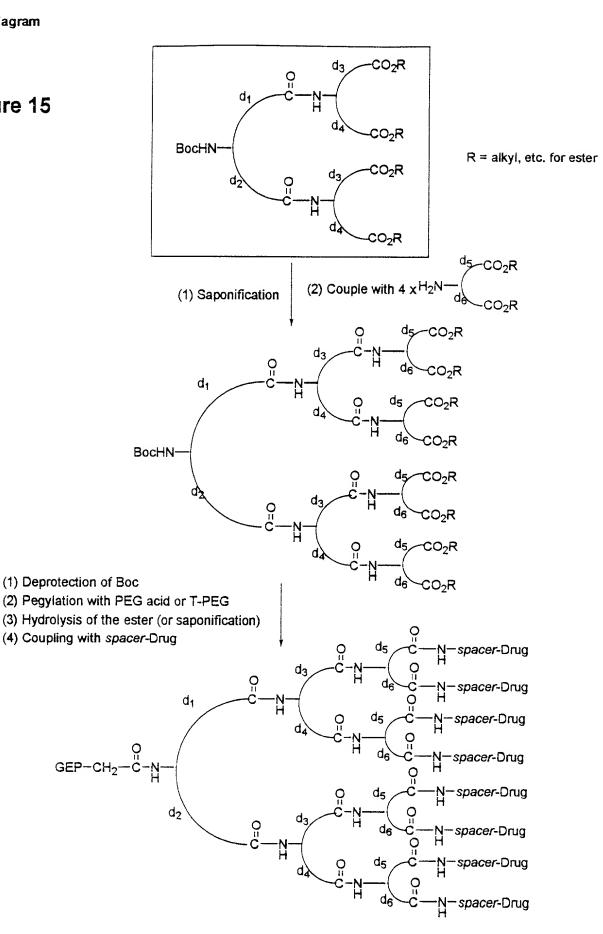


Fig. 17